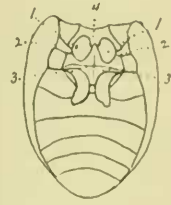


PRELIMINARY HAND - BOOK OF THE  
COLEOPTERA OF NORTH EASTERN AMERICA.

By CHARLES W. LENG & WM. BEUTENMÜLLER.

(CONTINUED FROM PAGE 96.)

In the present part of the Hand-Book no attempt has been made to give detailed descriptions of the genera under consideration, only the essential characters of each genus being given. For further information regarding the Carabidæ, the student is referred to Dr. Geo. H. Horn's invaluable paper on the genera of Carabidæ, published in the Transactions of the American Entomological Society, 1881, Vol. IX, pp. 91—196. The plate was kindly drawn by Mr. L. H. Joutel.



1. Coxal cavities.  
2. Epimeron.  
3. Mesosterna.  
4. Metasterna.

CARABIDÆ.

The Carabidæ are divided into three sub-families, viz.: Carabinae, Harpalinae and Pseudomorphinae; they may be separated as follows:

- Middle coxal cavities not entirely enclosed by the sterna, the epimeron of the mesosternum attaining the coxa . . . . . **Carabinae.**
- Middle coxal cavities entirely enclosed by the sterna; the epimeron not attaining the coxa . . . . . **Harpalinae.**
- Head with distinct antennal grooves . . . . . **Pseudomorphinae.**

CARABINÆ.

**Omophron** Lat.

Oval, convex, scutellum concealed; prosternum prolonged and covering the mesosternum.

The members of this genus live in holes in sandy places along the banks of streams, rivers and ponds.

*Synopsis of species.*

- Elytral striæ obliterated both at sides and apex.  
Dark brown or black, margin testaceous . . . . . **labiatum.**
- Elytral striæ obliterated at apex only.  
Metallic green, with testaceous border . . . . . **nitidum.**
- Elytra striæ indistinct at apex: 14 striate.  
Testaceous, with transverse broken metallic green markings . . . **robustum.**
- Elytral striæ distinct: 15 striate.

Metallic green or bronze with testaceous border and markings; the testaceous color sometimes predominating.

Usually more bronze than testaceous; thorax with side margins only testaceous . . . . . **americanum.**

Thorax with anterior margin as well as sides testaceous . . . **tessellatum.**

**O. labiatum** *Fabr.*—Dark brown or black; thorax and elytra with pale testaceous border; striæ and punctures of elytra becoming obliterated at sides and apex; thorax with scattered, coarse punctures. Underside pitchy, apex of abdomen paler. Length, .24 inch = 6 mm.

*Habitat*, Middle and Southern States.

**O. nitidum** *Lec.*—Allied to the preceding, but is distinctly punctured at the sides and is metallic green with the testaceous border of the elytra broader. Length, .20—.24 inch. = 5—6 mm.

*Habitat*, Illinois to Texas.

**O. robustum** *Horn.*—Pale testaceous; elytra with broken green transverse markings; thorax has a narrow transverse metallic green band, extending forward and backward at the middle, and an oval spot on each side between the band and the margin; elytra with striæ of coarse distant punctures. Underside testaceous. Length, .26 inch. = 6.5 mm.

*Habitat*, Nova Scotia, Ohio and Michigan.

**O. americanum** *Dej.*—Bronzy or greenish black; punctures of striæ rather fine; markings of elytra more or less confluent; margin testaceous; thorax with lateral margins pale and very narrow. Underside pitchy, apex of abdomen paler. Length, .24—.28 inch. = 6—7 mm.

*Habitat*, N. E. America, southward and westward.

**O. tessellatum** *Say.* (Plate III, Fig. 1.)—Pale testaceous; markings metallic green; striæ with punctures distinct, more closely placed on disc than at apex; thorax with coarse punctures, disc and lateral regions with but few punctures; discal spot rather small, with a narrow process along the median line, extending to the front and hind margins. Underside pale ferruginous. Length, .26 inch. = 6.5 mm.

*Habitat*, N. E. America.

### **Cychnus** *Fabr.*

Head long and slender; labrum bifurcate; posterior coxæ

separated; four basal joints of antennæ smooth; thorax more or less reflexed at sides.

Live in woods under leaves, stones in moist places; they feed principally upon snails, their long head being well adapted for extracting the animal from the shell.

*Synopsis of species.*

*Sub-genus Spheroderus.*

- Anterior tarsi of male broadly dilated; anterior tarsi female not dilated, slender.
- Basal impressions of thorax broad, deep, with coarse deep punctures.
  - Deep violaceous; granulate elytral striæ broken and assuming shining elevations . . . . . **nitidicollis.**
  - Deep violet; elytral striæ entire at base, interrupted at sides and apex . . . . . *var.* **Brevoorti.**
- Basal impressions of thorax linear, with a few distinct punctures, hind angles obtuse.
  - Violaceous; elytral striæ interrupted only at apex . . . . . **stenostomus.**
  - Violaceous; elytral striæ entire at base and interrupted behind the middle . . . . . *var.* **Lecontei.**
  - Violaceous; elytral striæ entire at base interrupted from middle to apex; the 4th and 12th striæ elevated to carinæ, *var.* **bicarinatus.**
- Basal impressions of thorax linear, with a few distant punctures; hind angles rectangular.
  - Violaceous; elytral striæ entire at base, interrupted at sides and apex . . . . . **canadensis.**

*Sub-genus Scaphinotus.*

- Anterior tarsi of male narrowly dilated.
- Hind angles of thorax prolonged backwards.
  - Thorax nearly as wide as elytra much elevated at sides; violaceous or cupreous . . . . . **elevatus.**
  - Black instead of violaceous . . . . . *var.* **unicolor.**
  - Very large and robust, violaceous . . . . . *var.* **heros.**
- Hind angles not prolonged backwards.
  - Robust; violaceous, thorax much narrower than the elytra moderately reflexed . . . . . **viduus.**
  - Slender, thorax longer than broad, slightly margined; not angulated at sides, thorax punctured at sides on top . . . . . **Andrewsii.**
  - Violaceous; smaller; thorax smooth . . . . . **Ridingsii.**
  - Brassy; sides of thorax distinctly angulated at sides . . . . . **Guyotii.**

**C. nitidicollis** Chev.—Deep violaceous, elytra obovate, with numerous small granules, striæ more or less broken and forming shining elevations; thorax with basal impressions broad and with deep, coarse confluent punctures. Length, .48—.64 inch. = 12—16 mm.

*var. Brevoorti* Lec.—Has the base of the elytra deeply striate; intervals at sides and apex broken into granules and tubercles.

*Habitat*, Hudson's Bay region to Northern Virginia.

The sculpture of the elytra of this species, is subject to considerable variation, from striate to tuberculate.

**C. stenostomus** Web. (Plate III, Fig. 2.)—Violaceous; basal impressions of thorax linear, with only a few distant punctures; elytra deeply striate, with closely placed punctures; intervals entire on disc, sometimes interrupted in the apical region. Length, .48—.60 inch. = 12—15 mm.

*var. Lecontei* Dej.—Intervals interrupted from the middle to the apex and assuming the form of tubercles.

*var. bicarinatus* Lec.—Intervals interrupted, except at basal region; intervals four and eight elevated, the twelfth forming an elongate carina.

*Habitat*, N. E. America.

**C. canadensis** Chaud.—Violaceous, margin blue; somewhat elongate; hind angles of thorax distinct, basal transverse impressions feeble or absent, longitudinal impressions sharply defined, with a few punctures; elytra deeply striate, punctured; intervals convex, broken at sides and apex. Length, .44—.48 inch. = 11—12 mm.

*Habitat*, Canada to Maryland; not found near N. Y. City.

**C. elevatus** Fabr. (Plate III, Fig. 3.)—Violaceous or cupreous; thorax with margins considerably elevated, hind angles prolonged over the elytra, finely punctured, disc sometimes wrinkled; elytra broadly oval, margins reflexed gradually narrowing towards the apex, surface striate finely punctured, intervals convex. Length, .60—1.12 inch. = 15—28 mm.

*var. unicolor* Fabr.—This form is blackish instead of violaceous.

*var. heros* Harr.—More robust and much larger than the typical *elevatus*.

*Habitat*, Middle States to Colorado.

**C. viduus** Dej. (Plate III, Fig. 4.)—Violaceous; thorax much narrower than the elytra, as long as wide; arcuate in front oblique behind, margins moderately wide, reflexed, disc nearly smooth, at

sides and margin punctate; elytra narrowly reflexed, surface deeply striate and punctured. Length, .70—1.16 inch. = 18—29 mm.

*Habitat*, N. Y., N. J., Pa., Va., Indiana.

**C. Andrewsii** *Harris*. (Plate III, Fig. 5.)—Violaceous above black beneath; thorax much narrower than the elytra, longer than wide, sides rounded in front, oblique behind, hind angles obtuse, disc almost smooth; sides punctate, margins slightly reflexed; elytra oval, striate, punctured. Length, .74—.86 inch. = 19—22 mm.

*Habitat*, Pa. to N. C., Ohio.

**C. Ridingsii** *Bland*.—Resembles the preceding species but is smaller. Thorax shining not punctured, impressions moderate, margin narrow; elytra oval, surface striate, punctured. Length, .50 inch. = 12.5 mm.

*Habitat*, Pa. to Va.

**C. Guyotii** *Lec*.—Differs from *Andrewsii* by the more coarse punctures of the base of the thorax, also by the labrum being less elongate, the lobes less slender, the emargination more broadly rounded and not extending so near to the base as in that species; sides of thorax distinctly angulated near the middle. Length, .27 mm. = 1. inch.

*Habitat*, North Carolina.

### **Nomaretus** *Lec*.

Allied to *Cychrus*; but has only two basal joints of the antennae smooth.

#### *Synopsis of species.*

Sides of thorax oblique, hind angles obtusely rounded behind, elytra striate.

Disc of thorax not punctured.

Violaceous; striæ distinct, punctures fine and close together . . . **bilobus**.

Violaceous; striæ feeble, punctures coarse and distant . . . **fissicollis**.

Black; elytra with four imperfect striæ on each . . . **imperfectus**.

Disc of thorax coarsely punctured; violaceous . . . **cavicollis**.

Sides of thorax sinuate; hind angles rectangular; elytra striate, black . . . **debilis**.

**N. bilobus** *Say*.—Violaceous; beneath black; thorax polished on disc, basal impressions strongly punctured; elytra with eleven striæ, deeply punctured. Length, .52 inch. = 13 mm.

*Habitat*, Lake Superior, Ohio, Mich. (also Mo.)

**N. fissicollis** *Lec*.—Resembles the preceding but distinguished by the thorax being impunctured, and by the punctures of the

striae of the elytra being longer and less close; the thorax is also narrowed behind. Length, .42 inch. = 10.5 mm.

*Habitat*, Illinois, Kansas.

**N. cavicollis** *Lec.* (Plate III, Fig. 6.)—Differs of *bilobus* and *fissicollis* by the anterior half of the thorax being covered with scattered punctures and the posterior half being broadly concave, and deeply punctured. Length, .45 inch. = 11.25 mm.

*Habitat*, Buffalo, N. Y., (also Mo., Ia. to Texas).

**N. imperfectus** *Lec.*—Black, smooth and glossy; thorax with basal impressions slightly transverse, and rather deep; elytra with four punctate, imperfect striae on each; the striae form an oblong space, which is slightly flattened, sides of elytra smooth and glossy. Length, .40 inch. = 10 mm.

*Habitat*, Pa., Va., N. C. (mountainous districts).

**N. debilis** *Lec.*—Black, glossy; thorax with basal impressions long and deep; sides sinuate, hind angles rectangular; elytra with striae deeply punctured, palpi and antennae rufous. Length, .38 inch. = 9.5 mm.

*Habitat*, Roan Mts., N. C., Ga (mountainous districts).

#### . **Carabus** *Linn.*

Large sized species allied to *Calosoma*; third joint of the antennae cylindrical; labrum not bifurcate, posterior coxae touching; spurs of anterior tibiae terminal.

#### *Synopsis of species.*

Thorax punctate beneath.

Brassy-bronze; elytra finely granulate with broken and continuous elevations . . . . . **mæander.**

Thorax not punctured beneath.

Hind angles of thorax hardly produced.

Jet black; elytral striae much broken . . . . . **chamissonis.**

Hind angles of thorax prolonged, rounded

Elytra with impressed spots.

Black, with blue margin; elytral striae very fine . . . **syllvosus.**

Cupreous with metallic purple or red margin . . . **nemoralis.**

Elytra catenate; serrate near humeri.

Black with blue margin . . . . . **serratus.**

Elytra not serrate near humeri, striae and intervals equal, distinct.

Black with blue margin . . . . . **limbatus.**

Elytra, bronzed, catenate, four intervals forming slender

costae . . . . . **vinctus.**

**C. mæander** *Fisch.*—Bronze; head and thorax thickly covered with coarse confluent punctures; elytra finely granulate, each with three rows of smooth shining elevations and an elevated line between each row. Length, 20 mm. = .80 inch.

*Habitat*, Canada, Hudson Bay region, Michigan to L. Superior region, N. Illinois to Minn. to Alaska, through Kamschatka to Siberia.

**C. chamissonis** *Fisch.*—Jet black; head and thorax finely punctate; elytra with the striae and intervals much broken. Length, .80 inch. = 20 mm.

*Habitat*, White Mountains, N. H., Labrador, Greenland and Alaska.

**C. nemoralis** *Muls.*—Copper-colored, somewhat metallic, with a metallic purple border; head and thorax rugose; elytra finely rugose, with the three rows of impressed spots distinct. Length, 1 inch. = 25 mm.

*Habitat*, Maine.—A European species.

**C. sylvossus** *Say.*—Black; thorax broader than long, slightly punctured, margins violet blue, reflexed; elytra elongate oval, striae and punctures very fine and faint, thus giving the insect a somewhat smooth appearance, margins violet blue, each elytra with three rows of distinct impressions. Length, 1.—1.20 inch = 27—30 mm.

*Habitat*, Canada to Texas.

**C. limbatus** *Say.*—Black with bluish margins, elytra deeply striate punctures distinct and regular, intervals distinct and convex, the fourth, eighth and twelfth broken into elongate pieces, the interruptions smooth and flat, humeral angle rounded. Length, 1.—1.12 inch. = 25—28 mm.

*Habitat*, N. E. America.

**C. serratus** *Say.*—Black with decided violet margins; thorax broad, disc smooth, margins punctured and very slightly reflexed; elytra elongate, sides almost parallel, humeral angles rather sharply produced; serrated near the humeri, striae with distant deep punctures; intervals flat and connected transversely, fourth, eighth and twelfth intervals broken, long and broad. Length, .80 to 1. inch. = 20—25 mm.

*Habitat*, N. E. America.

**C. vinctus** *Web.* (Plate III, Fig. 7.)—Bronze; thorax with a greenish tinge at borders; elytra distinctly catenate, with the intervals forming four elevated ridges. Length, 1. to 1.20 inch. = 25—30 mm.

*Habitat*, N. E. America.

### **Calosoma** *Web.*

Closely allied to *Carabus*, but the third joint of the antennæ compressed instead of cylindrical.

#### *Synopsis of species.*

Elytra with three rows of golden or metallic green impressed spots.

Black; anterior tarsi of male with four joints hairy beneath; striæ and intervals fine . . . . . **frigidum.**

Black; anterior tarsi of male with two joints hairy beneath; striæ and intervals coarse; metallic spots more numerous . . . . . **Sayi.**

Black; spots golden; anterior tarsi of male with three joints hairy beneath . . . . . **calidum.**

Elytra without rows of metallic spots.

Black, elongate, elytra with blue border . . . . . **externum.**

Metallic green with red margin; large size . . . . . **scrutator.**

Metallic green with red border; small size . . . . . **Wilcoxi.**

**C. frigidum** *Kby.*—Black above; greenish-black below; elytra and thorax with narrow green margins, the former with fine striæ, punctured and with three rows of small green, impressed spots, thorax and head rugosely punctate. Length, .80 inch. = 20 mm.

*Habitat*, Northern States and Canada.

**C. Sayi** *Dej.*—Larger and more elongate than the preceding species with the striæ and punctures much coarser and the intervals broader and more convex. The green impressed spots are more numerous in each row and are larger and more distinct. The thorax is also less punctured. Length, 1. inch. = 25 mm.

**C. externum** *Say.* (Plate III, Fig. 8.)—Body elongate, sides of elytra slightly convex, almost parallel. Thorax and elytra with violet margin, the latter striate with distinct punctures, intervals convex; thorax with sides rounded, hind angles obtusely rounded. Length, 1.20 inch. = 30 mm.

*Habitat*, N. E. America, southward and westward.

**C. scrutator** *Fabr.* (Plate III, Fig. 9.)—Large and robust; thorax very short and broad, sides and hind angle well rounded,



metallic-blue or green with margin golden-red; elytra striate, punctured metallic-green, margin golden-red; legs blue, underside green and golden-red. Length, 1.26 inch. = 30 mm.

*Habitat*, N. E. America, southward and westward.

**C. Wilcoxi** *Lec.*—Allied to the preceding, but is considerably smaller and the thorax much narrower. Color similar. Length, .72 inch. = 18 mm.

*Habitat*, Canada, Atlantic States and westward.

**C. calidum** *Fabr.*—Black above and below; elytra with three rows of large impressed golden spots, striæ distinct, punctured; thorax and head finely rugose, the former with broad basal impressions. Length, .88 inch. = 22 mm.

*Habitat*, N. E. America, southward and westward.

(TO BE CONTINUED.)

EXPLANATION OF PLATE III.

- |  |   |
|--|---|
| 1. <i>Omopron tessellatum</i> <i>Say.</i>  | 7. <i>Carabus vinetus</i> <i>Web.</i>         |
| 2. <i>Cychrus stenostomus</i> <i>Web.</i>  | 8. <i>Calosoma externum</i> <i>Say.</i>       |
| 3. " <i>elevatus</i> <i>Fabr.</i>          | 9. " <i>scrutator</i> <i>Fabr.</i>            |
| 4. " <i>viduus</i> <i>Harr.</i>            | 10. <i>Elaphrus ruscarius</i> <i>Say.</i>     |
| 5. " <i>andrewsii</i> <i>Harr.</i>         | 11. <i>Blethisa quadricollis</i> <i>Hald.</i> |
| 6. <i>Nomaretus cavicollis</i> <i>Lec.</i> | 12. <i>Notiophilus æneus</i> <i>Hbst.</i>     |

Mr. W. Danby writes that *Papilio ajax* mentioned by him in his list of Vancouver Lepidoptera, in the January number of the Journal, should be omitted and that *Papilio rutulus* should be *P. curymedon*.

The habitat of *macrops schauppii*, described in volume I, p. 12, of the Journal, should be Cypress Mills, Texas.